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BULL-BOND®

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Technical Data Sheet

DUROSEAL™ MEMBRANE

SYNTHETIC RUBBER WATERPROOFING, CRACK PREVENTION & VAPOR-BARRIER INTERCOAT MEMBRANE

PART 1: GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

DUROSEAL™ is a black, synthetic rubber, intercoat sealing membrane. This product is specially formulated for sealing, waterproofing and vapor-proofing under tile in floors, bathrooms, terraces and kitchens; Product meets ANSI A118.10 and A 118.12 specifications. DUROSEAL™ is used as a waterproofing system membrane for concrete roofs, under Spanish roof tiles, exterior tile facades, to protect moisture sensitive tiles and stone installations,and to seal water tanks and underground structures.

1.2 BASIC USES:

DUROSEAL™ liquid applied membrane can be used in a variety of applications where high flexibility, excellent water tightness and good bonding to cement based materials are desired. Typical DUROSEAL™ Membrane waterproofing applications Include:

Floors - Use beneath self-leveling floor products and toppings, above cement underlayments, and below tile setting mortars. Use to enhance the performance and to repair punctured membrane waterproofing systems.

Below Grade- The DUROSEAL™ liquid membrane can be used as part of a below ground moisture-proofing/waterproofing system with a polymeric (SABAKRETE™) cement protection barrier over the membrane.

Walls- The DUROSEAL™ has outstanding bond to many types of wall surfaces. It is used to water and vapor-proof exterior composite wall systems and exterior CMU/Cement plaster walls in buildings.

Concrete Roofs –The DUROSEAL™ liquid membrane is used as the principal waterproofing coating under roofs with Spanish tiles or other roof tiles. It is used for elastomeric waterproofing and for re-roofing repairs along with the appropriate liquid polymer topcoats.

Crack Anti-Fracture - The membrane is put to use as an impermeable and ANTI-FRACTURE barrier under tiles & other floor finishes in wet areas such as: balconies, bathrooms, terraces, shower pans, counter tops, kitchens, shopping mall food courts, food processing areas, decorative water fountains. DUROSEAL™ prevents cracking and the projection of plywood and cement board's joints. Controls non-structural cracks up to 1/8" wide as an ANTI-FRACTURE or crack resistant tile protection system.

Water Tanks- The membrane performs well even when continuously im- mersed underwater. DUROSEAL™ membrane is recommended for waterproofing cisterns, pools and water tanks, when used in conjunction with a polymeric (SABAKRETE™) cement protection barrier for optimum durability and leak free performance. Can also be used for waterproofing decorative fountains. Do not use in Potable Water systems for human consumption. Product is not toxic. Not approved by NSF-61.

1.3 ADVANTAGES:

• Flexible and elastic intercoat sealer and membrane with durable waterproofing and vapor-proofing properties.

• Water-based composition that can be applied to damp surfaces (No standing water) with excellent results.

• Excellent abrasion resistance and toughness. Endures abuse during cement topping and recoating work.

• Very low water vapor permeability. Ultra tight membrane film equals NO humidity or moisture permeation problems.

• Non-Staining. UV Radiation resistant films. NON-TOXIC, LOW ODOR fomula for trouble free application. MINIMAL environmental problems and worker's safety issues with regulatory agencies.

• Bonds exceptionally well to most construction materials. Has outstanding adhesion to cement based mortars, cement toppings, cement and gypsum-board, tile setting mortars, concrete, plaster and cement mortar beds.

• Can be applied by brush, roller or airless spray to suitable substrates like: concrete, cement mortar beds, exterior plywood (interior use), gypsum board (interiors only), cement plaster, cement terrazzo, cement-board (Piycem®).

• Quick Drying formula. Typically dries to touch in less than one hour.

• Alkali resistant. Can be applied to alkaline surfaces made with Portland cement cured at least 5 days.

PART 2: PRODUCT DATA

PRODUCT CHARACTERISTICS	
COMPOSITION	Water-Based Rubber.
COLORS	Glossy Black
WEIGHT SOLIDS	65 ± 1% weight
DENSITY	10.3 lb/gal
VISCOSITY	6,500 cps
pH	8.5 ± 1.0
COVERAGE	75 ft²/gal/coat
RECOMMENDED FILM THICKNESS	Minimum 25 Mils Dry (2.3 Coats)
DRYING TIME	To Touch 2 hrs / To Cover: 24-48hrs
SHELF LIFE	12 months
Specifications Compliance	ANSI A118.10 and A118.12

2.1 DUROSEAL™ COVERAGE

A minimum DUROSEAL™ dried coating thickness of 25 mils (0.6 mm) is needed to provide an effective vapor and waterproof barrier. A DFT (Dry Film Thickness) of 30-40 mils is recommended when both crack isolation and waterproofing properties are required. Depending on the selected use/application the applied DUROSEAL™ membrane DFT could increase to 40, 50 or 60 mils. DuroSeal™ should be applied in two or three coats with a crosshatched pattern to achieve the required minimum Dry Film Thickness (DFT) of 25 mils or (0.6 mm).

Important: For the final dried membrane thickness (DFT) to be 25 mils, the wet membrane thickness should be 45 mils. This is equal to a coverage rate of 35 ft2/gallon in one coat, 70 ft^2/gallon in two (2) coats or 105 ft^2/gallon for a three (3) coat application.

2.2 DUROSEAL™ COMPOSITION

DUROSEAL™ Liquid proof and Vapor-proof membrane is a synthetic rubber based waterproofing compound that dries to form a tough, seamless water and vapor-resistant film. The liquid rubber latex is environmentally friendly, non-toxic, solvent-free and has a very low odor. The membrane dries or cures by water evaporation. STANDING WATER or hydrostatic head WILL NOT ADVERSELY AFFECT the cured DUROSEAL™ film.

2.3 Appearance

DUROSEAL™ membrane is a viscous liquid similar in consistency to a very thick water based paint or mayonnaise. DUROSEAL™ liquid membrane is available pigmented in a BLACK color. IMPORTANT: The color of the liquid (uncured) compound has a violet hue that cures to a glossy black color for the dried DUROSEAL™ membrane. The membrane dries to form a tough, flexible glossy BLACK finish. The dried DUROSEAL™ film is tacky. The dried film, like most organic coatings, can be combustible.

PART 3: INSTRUCTIONS

3.1 SURFACE PREPARATION

1. Newly prepared concrete surfaces should be smooth and have a troweled or fine brush finish. Any masonry should be flush pointed. Defects in existing surfaces should be repaired with cement-based mortars or another suitable patching material. Surface profile must be similar to ICRI's CSP 1 to CSP-5 to assure optimum film built. Rougher substrates will require additional product to achieve the Minimum Dry Film Thickness (DFT) of 25 mils over the treated surface. We recommend surface repairs to smooth out and correct the substrate profile defects. Repairs to problematic, poor profile, concrete areas should be done with a SABAKRETE™ leveling mortar or BULL-BOND® MICRO-TOPPING prior to applying the DUROSEAL™ membrane.
2. All surfaces to be coated need to be clean and free of dust, loose materials, and free of surface water. DUROSEAL™ membrane should not be applied in wet conditions, rain or whenever these conditions are likely to occur before the membrane has fully dried. A wet membrane will be washed-out by rain.
3. Provide adequate ventilation and/or electric heaters and blowers for below grade applications to ensure a fast and thorough cure of the membrane film and assure safe working conditions.
4. It is mandatory to prime substrates with the penetrating primer SABAKRETE™ PRIMER to improve the adhesion of the mem- brane to smooth surfaces, marginally prepared concrete and chalky, dusty or very porous mortar substrates.

**IMPORTANT: SABAKRETE™ is the ONLY approved primer or impregnator for the DUROSEAL™ membrane system. Other primers can ADVERSELY affect membrane adhesion and produce SERIOUS DEBONDING. SABAKRETE™ is applied at 100-300 square feet per gallon. Check adhesion of unlisted substrates by applying the DUROSEAL™ membrane or the SABAKRETE™ PRIMER to a small sample area before starting any job. If substrate adhesion questions arise; job pretesting is mandatory for waterproofing. PRIMER™ to a small sample area before starting any job . If substrate adhesion questions arise; job pretesting is mandatory for waterproofing.*

3.2 APPLICATION

The DURO SEAL™ membrane must be mixed thoroughly using an electric drill with mixer before being applied by brush, roller or airless spray. If required, the membrane can be diluted with tap water to facilitate airless spraying. However, care must be taken to ensure the correct dry-coat thickness is applied. Diluting the DURO SEAL™ membrane with water will extend the drying time and may cause other application problems.

3.2.1 As a Waterproofing Membrane:

1. The film thickness of the dried membrane depends on the application requirements and method of application. For a single, dry coat thickness of more that 12 mils, it is recommended that the membrane be applied by airless spray. When two or more coats are being applied, it Is recommended that the coats be applied at right angles to each other, in a crosshatched pattern.
2. Before applying the second coat, it is necessary to let the first coat become dry to the touch, a 1 to 4 hours drying time . Important: The second coat or subsequent coats MUST be applied within 2 to 24 hours after application of the first coat for optimum intercoat adhesion .
3. Let the DUROSEAL™ membrane dry for at least 24-48 hours before topping or covering with cement based materials like; tile setting mortars, toppings, plaster, stucco, roof tile setting materials (cement mortars or adhesive foams).

3.2.2 As a Anti-Fracture Membrane:

1. DUROSEAL™ membrane can also be used as an ANTI-FRACTURE system to protect TILE surfaces from CRACKING due to shrinkage movements and/or the projection of existing cracks from the substrate to the new tile surface. We recommend using the DUROSEAL™ membrane along with a polyester reinforcing mesh to ensure adequate film thickness and a strong/tough anti-fracture performance.
2. Seal with polyurethane sealant joints, cracks, and gaps including cants, corners and coves. Apply SABAKRETE™ as a PRIMER to all areas caulked with polyurethane sealant. Seal all perimeters, cracks and corners with a heavy/thick membrane coat and place on the wet membrane a strip of mesh to reinforce the corners, coves and cracks. When the detailing dries apply a coat of SABAKRETE™ to the treated surface.
3. Apply a liberal coat of DUROSEAL™ to the area surface, covering it 100% with the reinforcing fabric. Imbed the polyester fabric in the membrane making sure the violet-black liquid bleeds through the reinforcing mesh. Rectify the fabric position and smooth it. Press with a roller or brush firmly on the mesh to smooth the fabric mesh.
4. When the membrane-mesh coat dries, apply a final coat of DUROSEAL™ liquid membrane over the mesh covering it completely and sealing the entire surface. Total TILE ANTI-FRACTURE system thickness will be around 40-60 mils. Tiles can be placed as soon as the DUROSEAL™ liquid membrane system dries completely A cure time of 24 to 48 hours is preferred.

3.3 CLEAN-UP AND STORAGE

Clean all tools and equipment with potable water while membrane is wet. Do not store DUROSEAL™ waterproofing membrane or SABAKRETE™ PRIMER where it is likely to freeze or be exposed to hot/cold temperature cycling. Store in a covered area, with a normal 50°F- 90°F ambient temperature. Rotate product stock to assure good first-in first-out inventory rotation.

PART 4: PRECAUTIONS

Keep product out of the reach of children. Children can fall into open buckets and drown. Keep containers tightly closed. If ingested DO NOT induce vomiting. Call physician immediately. Avoid breathing vapors. In case of eye contact flush with water for 15 minutes. Call an eye doctor if irritation persists.

Read SDS before product use.

PART 5: DUROSEAL TECHNICAL INFO

Physical Tests Measurements	Testing Method	DuroSeal™ Membrane
Hydrostatic	FHA 4900.1	50 hours
Head Testing	Modified	PASSES
Water Resistance	ASTM D751	100 lbs./in².
	Modified (B)	PASSES
Permeability	ASTM E-96	6.0 Perms
Water Permeance	Federal Stand.	PASSES
	TT-C-00555	EXCELLENT
Water Vapor Transmission	ASTM E-96	5.5 grains/h.ft²
Film Elongation	ASTM D-638	600%
		(Membrane)
Anti-Fracture	ASTM D-751	25 % Elongation
System Mesh		
Anti-Fracture	ASTM D-751	2,500 psi
Strength	Cut and Break	(17.3 MPa)
Adhesion To	Tensile Bond	150 psi
Cement Board	Modified	Dry/Wet
Adhesion To	Tensile Bond	50 psi
Polystyrene Foam	Modified	Dry/Wet
Adhesion To	Tensile Bond	200 psi
Concrete	Modified	Dry/ Wet
Bond Thin Set To DuroSeal	Tensile Bond	350 psi
	Modified	Tile Failure
Bond to Roof Tile Set Foam	Tensile Bond	150 psi
	Modified	Foam Failure
Flex & Crack Bridging	ASTM C-836	PASSES
		No Cracks
Dimensional Stability	A118.10	±0.3%
	Section 4.4	

DUROSEAL™ membrane complies with ANSI A118.10 requirements for undertile and stone waterproofing membranes. Product meets ANSI A118.12 requirements and testing for crack isolation membranes.

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Check our website for the latest version of the Technical Data Sheet

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